





LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

BULLETIN No. 409

MAPLE SYRUP

NOTES AND COMMENTS.

Under this heading, as occasion arises, the Bulletins issued by this Department will contain, as an appendix, such comment as may seem necessary or advisable upon matters relating to the work of the Department in connection with the administration of the Adulteration Act, the Fertilizers Act, the Feeding Stuffs Act or the Proprietary Medicines Act.

It frequently happens that correspondents ask information regarding the above Acts, of such a nature that the matter in question possesses general interest, and comment upon it would prove acceptable and useful to others than the immediate questioner. In such cases the reply may find a place in these columns. For convenience of reference these notes will be numbered in series.

A. MCGILL

Chief Analyst.

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 409

MAPLE SYRUP

OTTAWA, July 15, 1918.

GEO. W. TAYLOR, Esq.,
Asst. Deputy Minister of Inland Revenue.

SIR,—I beg to hand you a report upon 150 samples of Maple Syrup, purchased by our inspectors in April and May of the present year.

The work of analysis has been performed by Mr. A. Valin of this staff, with the co-operation of Miss S. E. Wright. Mr. Valin has, during many years, made a special study of Maple Products and has introduced many improvements in the methods of analysis; so that his results may be accepted with great confidence in their accuracy.

In addition to the principal table which shows the origin of these samples and the results of analysis, in detail, Mr. Valin furnishes subsidiary tables in which are arranged the same samples, according to classified findings.

In table A are arranged such samples as not merely meet the minimum legal values fixed by the sixth schedule of the Adulteration Act, but also meet standard requirements as suggested by Bulletin No. 466, Department of Agriculture, Washington. The Bulletin referred to contains the results of a study of 481 samples of maple syrup, examined by Mr. A. H. Bryan in 1910, 1911 and 1912; and, his conclusions are to the effect that genuine maple syrup should show, (calculated to a dry basis):—

Total ash.....	0.77 per cent.
Insoluble ash.....	0.23 " "
Lead number.....	1.85 (Winton).
" ".....	2.60 (Canadian, approximate).
Malic acid value.....	0.60

Canadian standards were fixed on the basis of examination of 456 samples in 1911 (Bulletin No. 228) and require:

Total ash.....	0.60 per cent.
Insoluble ash.....	0.12 " "
Lead number.....	1.20 (Winton).
" ".....	1.70 (Canadian).

The samples arranged in Table A may be regarded as genuine maple syrup which have not been tampered with.

Samples arranged in Table B give results which meet present legal requirements. They must therefore be held to be legally genuine; but they cannot be regarded, in all cases, as above suspicion of having been more or less tampered with. They fail, in every instance, to meet the suggested constants for maple syrup as written by Mr. Bryan. (Bulletin 466, Dept. of Agriculture, U. S. A.).

Samples arranged in Table C are adulterated under the requirements of schedule 6 of the Adulteration Act.

It will be noted that several samples contain more than 35 per cent of water; in a few cases the water constitutes more than 40 per cent of the weight of the product. Standard maple syrup should weigh 13 pounds 3 ounces per Imperial gallon. The samples in question weigh decidedly less than this.

Investigation in detail has convinced me that, in nearly all of the cases referred to, the presence of excess water is to be accounted for, as due to inexperience in manipulation, lack of proper means of noting density or other reasons quite unconnected with any intent to defraud.

I would therefore respectfully suggest that the Department issue this report as a warning, so far as these samples are concerned, and exercise leniency, in their regard, while emphasizing the fact that the presence of more than 35 per cent water in maple syrup constitutes legal adulteration; and that, unless the warning be found effective, subsequent cases of the kind will be dealt with strictly according to law.

I beg to recommend publication of this report as Bulletin No. 409.

I have the honour to be, Sir,
Your obedient servant,

A. MCGILL,

Chief Analyst.

TABLE A

Sample.	Water. %	Solids. %	Results on Dry Basis.		Remarks.
			Lead Number. Canadian.	Ash.	
84166	36.51	63.49	4.94	1.47	
82902	27.98	72.02	2.52	0.83	
82904	33.58	66.42	3.50	1.04	
82906	30.57	69.43	3.30	1.10	
82907	36.53	63.37	4.12	1.15	
82908	34.43	65.57	3.94	1.34	
82910	32.98	67.02	3.36	1.11	
84455	35.98	64.02	3.90	1.00	
84105	41.22	58.78	4.80	1.64	Excess of water.
84106	33.88	66.12	3.70	1.28	
84107	37.68	62.32	4.32	1.30	
84108	33.45	66.55	2.64	0.96	
83411	39.53	60.47	2.68	0.92	
83413	32.53	67.47	3.82	1.11	
83414	30.48	69.52	3.02	1.00	
83416	31.68	68.32	3.80	1.17	
80584	34.71	65.29	4.10	1.07	
80588	34.71	65.29	4.58	1.02	
80622	34.96	65.04	3.84	1.07	
84804	34.21	65.79	4.56	1.19	
84807	34.71	65.29	3.56	0.98	
84808	33.41	66.59	4.12	1.23	
84810	41.71	58.29	4.48	1.08	Excess of water.
84812	30.21	69.79	3.98	1.06	
84818	33.06	66.94	6.18	1.27	
84820	32.46	67.54	4.48	1.33	
79064	34.71	65.29	3.80	1.04	
79966	31.66	68.34	3.56	1.14	
79967	37.76	62.24	3.64	1.12	
79968	40.91	59.09	3.48	1.11	Excess of water.
79969	31.16	68.84	4.52	1.09	
79970	38.41	61.59	4.44	1.13	
79971	35.11	64.89	3.58	1.27	
79972	35.81	64.19	3.94	1.07	
79973	35.21	64.79	4.58	1.24	
80019	32.29	67.71	4.00	1.15	
80020	39.64	60.36	4.14	1.12	Excess of water.
81232	42.14	57.86	3.58	1.12	" "
84437	31.49	68.51	4.62	1.06	
84438	32.69	67.31	4.18	0.99	
81242	37.79	62.21	4.02	1.06	
84444	31.56	68.44	3.94	1.05	
81245	33.86	66.14	3.80	1.09	
84447	37.09	62.91	4.22	1.06	
84449	37.54	62.46	3.54	1.13	
84426	34.71	65.29	4.06	0.98	
84427	31.68	68.32	4.16	1.09	
84430	30.96	69.04	3.68	1.07	
84431	31.41	68.59	3.62	0.88	
81432	37.36	62.64	4.44	1.00	
84433	34.31	65.69	4.02	1.15	
80569	34.06	65.94	3.36	1.24	
80586	33.41	66.59	3.72	0.82	
80597	37.51	62.49	3.84	0.99	
84428	32.69	67.31	4.24	0.96	
84822	36.91	63.09	3.98	1.15	
84427	40.41	59.59	5.44	1.19	Excess of water.
8105	33.11	66.89	4.14	0.98	
8106	38.21	61.79	5.24	1.12	
8107	32.21	67.79	4.78	1.25	
70489	30.96	69.04	5.34	1.27	
70490	30.96	69.04	4.48	1.04	
70491	31.51	68.49	4.32	1.01	
70492	31.16	68.84	4.84	1.24	
81450	33.83	66.17	4.94	1.28	
84451	34.33	65.67	5.62	1.29	
84452	31.07	68.93	5.74	1.24	
84453	33.13	66.87	3.42	1.10	
84175	31.82	68.18	3.30	1.31	

TABLE A—Continued.

Sample.	Water. %	Solids. %	Results on Dry Basis.		Remarks.
			Lead Number. Canadian.	Ash.	
84176	33.33	66.67	4.26	1.16	
84178	33.33	66.67	4.44	1.19	
84179	29.73	70.27	3.69	1.22	
84181	32.13	67.87	3.30	0.74	
84182	38.13	61.87	3.00	0.94	
84184	35.23	64.77	3.80	1.03	
84190	33.58	66.42	3.76	1.12	
70488	33.73	66.27	4.48	1.27	
8108	36.08	63.92	5.40	1.40	
8104	39.68	60.32	4.78	1.32	Excess of water.
63579	32.43	67.57	3.18	0.97	
68580	33.33	66.67	3.26	0.91	
84102	40.84	59.16	3.84	1.26	Excess of water.
84103	33.79	66.21	3.18	1.01	
84104	31.34	68.66	3.54	0.93	
84154	31.34	68.66	3.24	1.00	
79776	31.76	68.24	3.20	0.96	
79781	30.21	69.79	4.62	1.21	
79782	34.96	65.04	3.82	1.23	
80676	40.16	59.84	2.62	0.83	Excess of water.
81228	31.58	68.42	2.84	0.78	
81229	34.43	65.57	3.02	0.85	
81230	26.38	63.62	3.16	1.07	
81231	32.68	67.32	2.76	0.83	
81240	39.68	60.32	3.04	0.91	Excess of water.
81247	35.53	64.47	4.24	0.94	
81249	32.00	68.00	3.10	0.97	
81250	35.98	64.02	3.46	1.04	
84436	30.98	69.02	3.72	1.11	
80587	32.43	67.57	3.84	0.94	
84101	34.78	65.22	3.10	0.93	
80011	36.13	63.87	3.58	1.26	
80012	32.68	67.32	3.76	1.21	
80013	35.88	64.12	4.70	1.05	
80014	31.38	68.62	4.14	1.06	
80015	35.88	64.12	3.94	1.15	
80016	35.18	64.82	4.81	1.36	
84435	30.33	69.67	3.80	1.34	
80603	33.48	66.52	2.94	1.05	
79434	34.51	65.49	4.08	0.91	
79435	28.51	71.49	2.70	0.85	
79440	32.81	67.19	3.51	0.74	
79444	37.56	62.44	3.22	1.00	
80626	35.41	64.59	5.40	0.92	
80627	29.31	70.69	5.18	0.85	
80017	29.31	70.69	3.88	0.76	
81837	35.16	64.84	4.06	1.03	
84446	31.41	68.59	2.84	0.89	
84109	33.26	66.74	2.56	1.01	
84110	33.86	66.14	4.84	0.99	
84301	45.96	54.04	4.64	1.11	Excess of water.
83031	36.61	63.39	2.60	0.74	
83035	35.20	64.80	3.36	0.96	
84434	33.81	66.19	3.33	0.86	

TABLE B.

Sample.	Water. %	Solids. %	Results on Dry Basis.					
			Lead Number.		Ash.			Malic acid value.
			Canadian.	Winton.	Total.	Water soluble.	Insoluble.	
52903	31.96	68.04	2.46	1.53	0.61	0.38	0.23	0.51
81839	34.20	65.80	2.00	1.23	0.62	0.36	0.26	0.46
52901	32.44	67.56	2.01	1.45	0.72	0.57	0.16	0.68
52909	33.80	66.20	2.07	1.34	0.64	0.36	0.28	0.47
84180	28.30	71.61	1.67	1.12	0.57	0.32	0.25	0.32
68581	33.56	66.44	1.93	1.20	0.59	0.40	0.19	0.43
80632	33.20	66.80	2.26	1.60	0.77	0.52	0.25	0.64
84183	36.21	63.79	2.42	1.75	0.84	0.48	0.36	0.53
79432	37.58	62.42	1.99	1.17	0.58	0.32	0.26	0.46
80657	36.17	63.83	1.66	0.98	0.59	0.34	0.25	0.43
79778	32.30	67.70	2.51	1.64	0.71	0.47	0.24	0.56
79780	38.50	61.50	2.44	1.48	0.57	0.33	0.24	0.50
79773	39.17	60.83	2.31	1.58	0.77	0.47	0.30	0.60
81843	31.20	68.80	2.30	1.69	0.76	0.52	0.24	0.40

TABLE C.

ADULTERATED MAPLE SYRUPS.

52905	33.91	66.09	1.57	1.12	0.49	0.31	0.18	0.37
80018	39.65	60.35	0.86	0.40	0.31	0.19	0.12	0.16
79775	34.62	65.38	0.33	0.27	0.17	0.13	0.04	0.19
81842	35.45	64.55	0.34	0.41	0.24	0.15	0.09	0.23
81838	35.73	64.27	0.15	0.03	0.04	.....	.....	0.12
83415	35.69	64.31	0.75	0.68	0.29	0.23	0.06	0.20
81840	32.33	67.77	0.28	0.16	0.16	0.08	0.08	0.16
79767	34.57	65.43	1.38	1.14	0.52	0.37	0.15	0.53
79774	32.84	67.16	1.08	0.63	0.40	0.25	0.15	0.44
79433	36.18	63.82	0.12	None.	0.03	.....	.....	0.06
83021	36.61	63.39	0.32	0.54	0.25	0.20	0.06	0.31
80611	34.41	65.59	1.17	1.12	0.51	0.22	0.29	0.62
79965	67.14	32.86	.....	Trace.	.....	.....	.....	.....

*Gum precipitated by alcohol.....	6.44
Reducing sugar.....	13.68
Cane sugar	3.67
Proteids.....	2.63

Conclusion : Linseed decoction sweetened with sugar.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF NOVA SCOTIA—

1918.							
April 22	Maple Syrup.	83411	H. C. Barnaby & Sons, Bridgewater, N.S.	1 qt.	60	Maples, Ltd., Toronto.	Unknown...
" 25	"	83413	W. J. Hopgood & Son, Halifax, N.S.	1 "	60	A. W. Westover, Sutton Junction, P.Q.	Manufacturer...
" 25	"	83414	S. Smith & Son, Halifax, N.S.	1 "	64	N. Crowe, Mapleton, N.S.	"
" 25	"	83415	Cahill & Co., Halifax, N.S.	3 bots	1 00	Canada Syrup Exchange, Montreal.	R. B. Seeton & Co., Halifax.
" 25	"	83416	T. F. Courtney & Co., Halifax, N.S.	1 qt.	60	A. J. Wiles, Westbrook, N.S.	.....

DISTRICT OF NEW BRUNSWICK—

April 15	Maple Syrup.	80011	Kirkpatrick & Cowan, St. John, N.B.	2 bots	1 00	A. H. Fairweather, Hampton, N.B.	.....
" 16	"	80012	Crystal Creamery, St. John, N.B.	2 "	1 20	Roy S. Parlee, Parleeville, N.B.	.....
" 16	"	80013	F. E. Williams & Co., Ltd., St. John, N.B.	2 "	1 10	L. D. Gunter, Bear Island, N.B.	.....
" 17	"	80014	P. Nasse & Son, St. John, N.B.	2 "	1 10	Geo. W. Bruce, Kingston, N.B.	.....
" 17	"	80015	J. E. Cowan, St. John, N.B.	2 "	90	Alfred Brown & Sons, Upper Bear Island, N.B.	.....
" 24	"	80016	H. C. Jewitt, Fredericton, N.B.	2 "	1 00	Edwin M. Currie, Macinqua.	.....
" 25	"	80017	H. M. Dewitt, Woodstock, N.B.	2 "	1 00	M. H. McNally, Beechwood, N.B.	.....
" 27	"	80018	S. Simkervitz, Grand Falls, N.B.	2 "	1 00	Maples, Ltd., Toronto.	G. E. Barbour Co., Ltd., St. John, N.B.
May 6	"	80019	J. E. Quinn, City Market, St. John, N.B.	2 "	1 00	Sussex Mercantile Co., Elgin, N.S.	.....
" 7	"	80020	J. R. Vanwart, St. John, N.B.	1 qt.	65	.....	E. A. Allaby, St. John, N.B.

DISTRICT OF QUEBEC CITY—

April 6	Sirop d'érable.	70488	N. Lefrancois, Ange Gardien, P.Q.	1 qt.	14	Vendor .....	.....
" 6	"	70489	A. Jobidon, Chateau Richer, P.Q.	1 "	15	" .....	.....
" 6	"	70490	Adalbert Plante, St. Laurent, I.O., P.Q.	1 "	17	" .....	.....
" 6	"	70491	N. Rousseau, St. Pierre, I.O., P.Q.	1 "	17	" .....	.....
" 6	"	70492	P. Letourneau, Ste. Famille, I.O., P.Q.	1 "	17	" .....	.....

MAPLE SYRUP.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.								No. of Sample.	Remarks and Opinion of the Chief Analyst.	
	Water.	Solids.	Results on dry basis.								Malic Acid Value.
			Lead No.		Ash.						
			Canadian	Winton.	Total.	Water Soluble.	Insoluble				

R. J. WAUGH, INSPECTOR.

Rose Brand	39.53	60.47	2.68	.....	0.92	.....	.....	.....	83411	Excess water.
.....	32.53	67.47	3.82	.....	1.11	.....	.....	.....	83413	
.....	30.48	69.52	3.02	.....	1.00	.....	.....	.....	83414	
Canada's Best Brand.	35.69	64.31	0.75	0.68	0.29	0.23	0.06	0.20	83415	Adulterated.
.....	31.68	68.32	3.80	.....	1.17	.....	.....	.....	83416	

JOHN C. FERGUSON, INSPECTOR.

.....	36.13	63.87	3.58	.....	1.26	.....	.....	.....	80011	
.....	32.68	67.32	3.76	.....	1.21	.....	.....	.....	80012	
.....	33.88	66.12	4.70	.....	1.05	.....	.....	.....	80013	
.....	31.38	68.62	4.14	.....	1.06	.....	.....	.....	80014	
.....	35.88	64.12	3.94	.....	1.15	.....	.....	.....	80015	
.....	35.18	64.82	4.84	.....	1.36	.....	.....	.....	80016	
.....	29.31	70.69	3.88	.....	0.76	.....	.....	.....	80017	
Old Tyme	39.65	60.35	0.87	0.40	0.31	0.19	0.12	0.16	80018	Adulterated.
.....	32.29	67.71	4.00	.....	1.15	.....	.....	.....	80019	
.....	39.64	60.36	4.14	.....	1.12	.....	.....	.....	80020	Excess water.

LEON HARDY, ACTING INSPECTOR.

Pure.....	33.73	66.27	4.48	.....	1.27	.....	.....	.....	70488	
"	30.96	69.04	5.34	.....	1.27	.....	.....	.....	70489	
"	30.96	69.04	4.48	.....	1.04	.....	.....	.....	70490	
"	31.51	68.49	4.32	.....	1.01	.....	.....	.....	70491	
"	31.16	68.84	4.84	.....	1.24	.....	.....	.....	70492	

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF QUEBEC CITY.—

1918							
April 18	Sirup d'érable.	8103	J. Turgeon, St. Anselme, P.Q.	1 qt.	18	Vendor	
" 13	"	8104	E. Brochu, St. Henri, P.Q.	"	17	"	
" 13	"	8105	J. Pelchat St. Charles, P.Q.	"	15	"	
" 13	"	8106	D. Roy, Ste. Claire, P.Q.	"	17	"	
" 13	"	8107	J. Beaumont, St. Anselme, P. Q.	"	16	"	

DISTRICT OF THREE RIVERS—

April 6	Maple Syrup	84804	Lyman Connor, Ramsay, P. Q.	1 qt.	45	Vendor	
" 6	"	84807	Euclide Charbonneau, St. Felix de Valois, P.Q.	"	40	"	
" 8	Sirup d'érable	84808	Edouard Joly, St. Cleophas, P. Q.	"	45	"	
" 8	"	84810	Vve. Stanislas Ducharme, St. Cleophas, P. Q.	"	45	"	
" 9	"	84812	Alfred Desrosiers, St. Felix de Valois, P. Q.	"	45	"	
" 12	"	84818	Henri Laferrriere, St. Felix de Valois, P. Q.	"	45	"	
" 12	"	84820	Pierre Rondeau, St. Felix de Valois, P. Q.	"	45	"	
" 12	"	84822	Joseph Houde, Castel Hill, P. Q.	"	40	"	
" 12	"	84827	Chet Connor, Ramsay, P.Q.	"	40	"	

DISTRICT OF MONTREAL—

April 1	Maple Syrup	84426	John Muir, St. Peter St., Montreal.	1 tin.	2 00	J. Atkin, W. Brome P. Q.	
" 2	"	84427	Stanislas Paquette, Bonsecours Market, Montreal.	1 qt.	50	Stanislas Paquette, St. Paul, Abbotsford.	
" 2	"	84428	E. Chainiere, Bonsecours Market, Montreal.	"	50	E. Chainiere, Farnham, P. Q.	
" 2	"	84430	V. Darcey, Bonsecours Market, Montreal.	"	50	V. Darcey, Abbotsford, P.Q.	
" 2	"	84431	J. B. Darcey, Bonsecours Market, Montreal.	"	50	J. B. Darcey, Abbotsford, P.Q.	
" 2	"	84432	G. H. Falle, St. Antoine Market, Montreal.	"	60	J. A. Grubb, West Shefford, P.Q.	

MAPLE SYRUP.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.								No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Water.	Solids.	Results on dry basis.					Malic Acid Value.		
			Lead No.		Ass.					
			Canadi- an.	Winton.	Total.	Water Soluble.	Insoluble.			

Concluded.

Pure.....	36-08	63-92	5-40	.....	1-40	.....	.....	.....	8103	
"	39-68	60-32	4-78	.....	1-32	.....	.....	.....	8104	Excess water.
"	33-11	66-89	4-14	.....	0-98	.....	.....	.....	8105	
"	38-21	61-79	5-24	.....	1-12	.....	.....	.....	8106	Excess water.
"	32-21	67-79	4-78	.....	1-25	.....	.....	.....	8107	

Dr V. P. LAVALLEE, INSPECTOR.

.....	34-21	65-79	4-56	.....	1-19	.....	.....	.....	84804	
.....	34-71	65-29	3-56	.....	0-98	.....	.....	.....	84807	
.....	33-41	66-59	4-12	.....	1-23	.....	.....	.....	84808	
.....	41-71	58-29	4-48	.....	1-03	.....	.....	.....	84810	Excess water.
.....	30-21	69-79	3-98	.....	1-06	.....	.....	.....	84812	
.....	33-06	66-94	6-18	.....	1-27	.....	.....	.....	84818	
.....	32-46	67-54	4-48	.....	1-33	.....	.....	.....	84820	
.....	36-91	63-09	3-98	.....	1-15	.....	.....	.....	84822	
.....	40-41	59-59	5-44	.....	1-19	.....	.....	.....	84827	Excess water.

J. J. COSTIGAN, INSPECTOR.

.....	34-71	65-29	4-06	.....	0-93	.....	.....	.....	84426	
.....	31-68	68-32	4-16	.....	1-09	.....	.....	.....	84427	
.....	32-69	67-31	4-24	.....	0-96	.....	.....	.....	84428	
.....	30-96	69-04	3-68	.....	1-07	.....	.....	.....	84430	
.....	31-41	68-59	3-62	.....	0-88	.....	.....	.....	84431	
.....	37-36	62-6	4-44	.....	1-00	.....	.....	.....	84432	

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF MONTREAL—

1911							
April 2	Maple Syrup.	84433	Lathowky & Sons St. Antoine Market, Montreal.	1 Qt.	75	W. Logan, Howich, P.Q.	.....
" 2	"	84434	Canada Maple Exchange, Ltd., 344 De Lorimier Ave.	1 "	50	Vendors.....	.....
" 2	"	84435	H. Desnoyers, St. James Market.	1 "	65	.....	.....
" 11	"	84436	A. Landry & Co., St. Lawrence Market.	3 bots.	60	.....	Z. Limoges, Montreal.
" 20	"	84453	Maple Tree Produce, Assn. Ltd., Wellington St.	1 qt.	50	Vendors.....	.....
" 20	"	84454	" " "	3 tins.	50	" .....	.....
May 1	"	84455	Small's, Ltd., Parthenais, St., Montreal.	3 bots.	88	" .....	.....

DISTRICT OF VALLEYFIELD—

April 19	Maple Syrup.	84437	E. R. Biron, Valleyfield, P.Q.	1 Qt.	45	.....	.....
" 19	"	84438	E. Bougie, Valleyfield, P.Q.	1 "	65	Joseph Benoit, Hinchinbrook, P.Q.	.....
" 23	"	84444	A. Henderson, Herdman, P.Q.	1 "	50	Lorenzo McClatchie, Herdman, P.Q.	.....
" 23	"	84446	Pringle Starke Co., Huntingdon, P.Q.	1 "	40	J. McMillan, Rockburn, P.Q.	.....
" 26	"	84447	M. Martel, St. Lambert, P.Q.	1 "	60	W. H. Couraen, Glen Sutton, P.Q.	.....
" 26	"	84449	S. Duval, St. Lambert, P.Q.	1 "	60	Harold Crowell, Dunkin, P.Q.	.....
" 29	"	84450	L. P. Pattee, Hawkesbury, Ont.	1 "	50	Geo. Bangs, Hawkesbury, Ont.	.....
" 29	"	84451	Laurin Frères, Hawkesbury, Ont.	1 "	50	J. Lorette, Chate au Blondeau.	.....
" 29	"	84452	Banford & Dunning, Hawkesbury, Ont.	1 "	50	Allan Case, L'Orignal, Ont.	.....

DISTRICT OF OTTAWA—

Mar. 25	Maple Syrup.	80589	M. S. Klar, Pembroke.....	3 bots.	1.50	The Bowes Co., Ltd., Toronto.	Hunter & Co., Pembroke.
April 5	"	80584	J. G. Quackenbush, Smith's Falls.	1 qt.	45	John Code, Smith's Falls.	.....
" 6	"	80586	Williams & Vanluven, Smith's Falls.	1 "	50	Forde.....	.....
" 6	"	80587	J. A. Ferguson, Smith's Falls.	1 "	45	Mrs. Price.....	.....
" 6	"	80588	F. W. Miskelly, Smith's Falls.	1 "	50	Richard Duffy.....	.....

MAPLE SYRUP.

Inspector's Report (Is not an expression of opinion).	Results of Analysis.								No. of Sample.	Remarks, and Opinion of the chief Analyst.	
	Water.	Solids.	Results on dry basis.								Malic Acid Value.
			Lead No.		Ash.						
			Canadian.	Winton.	Total.	Water Soluble.	Insoluble.				

Concluded.

.....	34-31	65-69	4-02	.....	1-15	.....	.....	84433	
.....	33-81	66-19	3-33	.....	0-86	.....	.....	84434	
.....	30-51	69-67	3-80	.....	1-34	.....	.....	84435	
.....	31-10	69-02	3-72	.....	1-11	.....	.....	84436	
.....	33-13	66-87	3-42	.....	1-10	.....	.....	84438	
.....	31-34	68-66	3-24	.....	1-06	.....	.....	84454	
.....	35-08	64-09	3-96	.....	1-00	.....	.....	84455	

J. J. COSTIGAN, ACTING INSPECTOR.

.....	31-45	68-51	4-02	.....	1-06	.....	.....	84437	
.....	32-69	67-31	4-18	.....	0-99	.....	.....	84438	
.....	31-59	68-41	3-08	.....	1-06	.....	.....	84444	
.....	31-41	68-59	2-84	.....	0-89	.....	.....	84446	
.....	37-09	62-91	4-22	.....	1-06	.....	.....	84447	
.....	37-54	62-46	3-54	.....	1-13	.....	.....	84449	
.....	33-83	66-17	4-94	.....	1-28	.....	.....	84450	
.....	34-33	65-67	5-62	.....	1-29	.....	.....	84451	
.....	31-07	68-93	5-74	.....	1-24	.....	.....	84452	

J. A. RICKEY, INSPEC

Pure,	34-06	65-94	3-36	.....	1-24	.....	.....	80560	
.....	34-71	65-29	4-10	.....	1-07	.....	.....	80584	
.....	33-41	66-59	3-72	.....	0-82	.....	.....	80586	
.....	32-43	67-57	3-84	.....	0-94	.....	.....	80587	
.....	34-71	65-29	4-58	.....	1-02	.....	.....	80588	

BULLETIN No. 409.—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF OTTAWA,—

1918							
April 12	Maple Syrup	80597	H. Shore, Byward Market, Ottawa.	1 Tin.	1.50	E. Caldwell, Brome, P. Q.	.....
" 16	"	80603	W. A. Hunter & Sons, Pembroke.	1 Bot.	60	The Bowes Co., Ltd, Toronto.	.....
" 23	"	80611	A. Whitehorne, Westboro.	3 bots.	1.05	Maples Ltd, Toronto.	.....
" 26	"	80622	J. Bambrick, Ottawa.	1 tin.	1.75	E. C. Drew, R.R. No. 1, Dunham, P.Q.	.....
" 34	"	80626	P. Devine, Byward Market, Ottawa.	1 qt.	50	B. Pope, Harlem, Ont.	.....
" 30	"	80627	Wall & Co., Byward Market, Ottawa.	"	60	Brophy Bros., Harrison's Corners.	.....
May 3	"	80632	Matthews Blackwell, Lewis & Bank Street, Ottawa.	3 bots.	75	Smalls's Ltd, Montreal.	.....
" 18	"	80657	McDonald Bros., Gladstone Ave, Ottawa.	1 bot.	50	Habitant Syrup Co., Montreal.	.....
" 29	"	80676	C. S. Colquhoun, Morrisburg.	3 bots.	1.50	Maples Ltd, Toronto.	Laporte Martin, Montreal.

DISTRICT OF KINGSTON,—

Mar. 28	Maple Syrup	79964	H. E. Bell, Collins Bay, Ont.	1 qt.	60	.....	.....
" 28	"	*79965	N. J. Babcock, Cataraqui.	"	50	.....	.....
" 28	"	79966	W. R. Farquharson, R.R. No. 1.	"	60	.....	.....
" 28	"	79967	O. Marks, Sydenham, Ont.	"	50	.....	.....
" 30	"	79968	G. L. Cadatt, Westbrook, Ont.	"	60	.....	.....
" 30	"	79969	J. E. Braah, Cataraqui, Ont.	"	"	.....	.....
" 30	"	79970	S. Snider, Odessa, Ont.	"	"	.....	.....
" 30	"	79971	J. A. Cowdy, Harrowsmith, Ont.	"	"	.....	.....
" 30	"	79972	C. Fraser, Elginburg, Ont.	"	50	.....	.....
" 30	"	79973	K. J. Valentine, Odessa, R. M.D.	"	60	.....	.....

* Gum precipitated by alcohol, 6.44%. Reducing sugar 13.68%. Cane Sugar, 3.67%. Proteids,

MAPLE SYRUP.

Inspector's Report. Is not an expression of opinion.)	Results of Analysis.								No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Water.	Solids.	Results on dry basis.							
			Lead No.		Ash.			Malic Acid Value.		
			Canadian.	Winton.	Total.	Water Soluble.	Insoluble.			

Concluded.

Pure.	37.51	62.49	3.84	.....	0.99	.....	.....	.....	80597	
Pure.	33.48	66.52	2.94	.....	1.05	.....	.....	.....	80603	
Rose Brand, Pure.	34.41	65.59	1.17	1.12	0.51	0.22	0.29	0.62	80611	Adulterated.
Canadian Emblem.	34.96	65.04	3.84	.....	1.07	.....	.....	.....	80622	
Pure Brand.	35.41	64.59	5.40	.....	0.92	.....	.....	.....	80626	
.....	29.31	70.69	5.18	.....	0.85	.....	.....	.....	80627	
Snial's Standard Pure.	33.20	66.80	2.26	1.66	0.77	0.52	0.25	0.64	80632	
Habitant Mountain Boy, Pure.	36.17	63.83	1.66	0.98	0.59	0.34	0.25	0.43	80657	
Rose Brand, Pure.	40.16	59.84	2.62	.....	0.83	.....	.....	.....	80676	Excess Water.

JAMES HOGAN, INSPECTOR.

Purchased at Kingston Market.	34.71	65.29	3.80	.....	1.04	.....	.....	.....	79964	
" "	67.14	32.86	Trace.	.....	.....	.....	.....	.....	*79965	Adulterated.
" "	31.00	65.34	3.56	.....	1.14	.....	.....	.....	79966	
" "	37.76	62.24	3.64	.....	1.12	.....	.....	.....	79967	
" "	40.91	59.09	3.48	.....	1.11	.....	.....	.....	79968	Excess Water.
" "	31.16	65.84	4.52	.....	1.09	.....	.....	.....	79969	
" "	36.41	63.59	4.44	.....	1.13	.....	.....	.....	79970	
" "	33.11	66.89	3.58	.....	1.27	.....	.....	.....	79971	
" "	35.81	64.19	3.94	.....	1.07	.....	.....	.....	79972	
" "	38.21	61.79	4.58	.....	1.24	.....	.....	.....	79973	Excess Water.

2.63% Conclusion. Linseed decoction, sweetened with sugar, A. V.

BULLETIN No. 409—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF TORONTO—

1918.							
May 6	Maple Syrup.	84175	J. B. Hagan, 693 Bloor St., W. Toronto.	3 bots.	1.20	Sewell H. Salisbury, Brant, Que.	
" 7	"	84176	Loblaw Stores, 891 Queen St., E. Toronto.	1 qt.	59	Unknown	
" 9	"	84178	A. Empringham, 1590 Danforth Ave., Toronto.	1 "	50		J. Empringham, Gerrard Street Toronto.
" 9	"	84179	J. M. Evans & Co., 2923 Dundas St., W. Toronto.	5 bots.	1.20	Maple Free Producer Assn., Montreal.	
" 10	"	84180	The Bowes & Co., Ltd., 703 Front St., E. Toronto.	3 "	1.08	Vendors	
" 11	"	84181	J. R. Richards, 239 Pape Ave., Toronto.	3 jars	80		White & Co., Toronto.
" 11	"	84182	A. Taylor, 966 Gerrard St., E. Toronto.	3 bots.	1.05	Maples Ltd, Toronto	
" 11	"	84183	J. Barron, 1442 Gerrard St., E. Toronto.	3 "	90	Small's Ltd., Montreal.	
" 13	"	84184	A. Thompson, 157 King St., Toronto.	1 qt.	65	C. B. Wall, Barnston, Que.	
" 13	"	84100	Clark & Dillon, 389 Church St., Toronto.	3 jars	75	Mayer, Toronto	
" 28	"	84301	Maples Ltd., 272 Van Horne St., Toronto.	3 bots	75	Vendors	

DISTRICT OF HAMILTON—

April 19	Maple Syrup.	84101	J. D. Cummings, 445 Wentworth St., N. Hamilton.	3 bots.	90		Fearman Bros. Ltd., Hamilton
" 20	"	84102	F. A. Crooks, Beamsville...	½ gal.	1.25	John Hicks, Beamsville.	
" 20	"	84103	Robt. Robinson, Capetown.	3 cans	1.05	Vendor	
" 20	"	84104	Thos. Evans, Glenford Station, R.R. No. 1.	3 "	1.20	"	
" 24	"	84105	E. Hoover, Dunnville	1 qt.	55	Maples Ltd., Toronto	
" 24	"	84106	A. L. Brickwell, Dunnville.	1 "	60	L. & L. Ricker, Canfield.	
" 24	"	84107	Dunnville Arcade, Dunnville.	1 "	59	Unknown	
" 26	"	84108	J. S. O'Neil, Main St., E. Welland.	3 bots.	90	Small's Ltd., Montreal.	
" 27	"	84109	W. Tefft, Ridgeville	1 qt.	75	Vendor	
" 27	"	84110	J. V. Fradenburg & Son, Cayuga, R.R. No. 2.	3 pts.	1.00	"	
" 27	"	84166	G. A. Tinlin, Beamsville	1 qt.	75	"	

MAPLE SYRUP.

Inspector's Report, (Is not an expression of opinion.	Results of Analysis.							Remarks and Opinion of the Chief Analyst.			
	Water.	Solids.	Results on dry Basis.						Malic Acid Value.		
			Lead No.	Ash.			No. of Sample.				
				Cana- dian.	Winton.	Total.				Water Soluble.	Insoluble.

H. J. DAGER, INSPECTOR.

Pure	31.82	68.18	3.30		1.31				84175	
.....	33.33	66.67	4.26		1.16				84176	
.....	33.33	66.67	4.44		1.19				84178	
Pride of Canada. Pure.	29.73	70.27	3.60		1.22				84179	
.....	28.39	71.61	1.67	1.12	0.57	0.32	0.25	0.32	84180	
.....	32.13	67.87	3.30		0.74				84181	
Rose Brand, Pure....	38.13	61.87	3.00		0.94				84182	Excess water.
Small's, Pure.....	36.21	63.79	2.42	1.75	0.84	0.48	0.26	0.53	84183	
.....	35.23	64.77	3.80		1.03				84184	
.....	32.58	67.42	3.76		1.12				84190	
Rose Brand. Pure....	45.96	54.04	4.64		1.11				84301	Large excess water. Adulterated.

H. J. DAGER, INSPECTOR.

.....	34.78	65.22	3.10		0.93				84101	
Purchased at Hamil- ton Market.	40.84	59.16	3.84		1.26				84102	Excess water.
" "	33.70	66.31	3.18		1.01				84103	
" "	31.34	68.66	3.54		0.93				84104	
Rose Brand, Pure....	41.22	58.78	4.80		1.64				84105	Excess water.
.....	33.88	66.12	3.70		1.28				84106	
.....	37.68	62.32	4.32		1.39				84107	
Small's Standard Pure.	33.45	66.55	2.64		0.96				84108	
Purchased at St. Catha- rines Market.	33.26	66.74	2.56		1.01				84109	
" "	33.86	66.14	4.84		0.99				84110	
" "	36.51	63.49	4.94		1.47				84166	

BULLETIN No. 400—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF WINDSOR—

1918.							
Feb. 23	Maple Syrup.	81228	J. S. Haskett, Denfield, No. 4.	1 qt.	60	Vendor.....	
" 23	"	81229	J. C. Gray, Komoka.....	1 "	55	"	
" 23	"	81230	E. D. Bycraft, Ilderton, No. 2.	1 "	60	"	
" 23	"	81231	Fred. Eichenberger, Lambeth R.R. No. 1.	1 "	65	"	
" 23	"	81232	C. Crawford, Ilderton, R.R. No. 4.	1 "	60	"	
April 1	"	81240	W. T. Strachan, Glencoe...	1 "	55	J. M. Graham.....	
" 1	"	81242	Chas. George, Glencoe...	1 "	56	.....	Mr. Sidall.....
" 2	"	81245	J. P. Rogers & Co., St. Mary's, Ont.	1 "	55	.....	Mr. Muxworthy, Hensel.
" 2	"	81247	F. W. Hutton, St. Mary's, Ont.	1 "	55	.....	S. Daley.....
" 3	"	81249	Oman & Mallion, Stratford	1 "	75	.....	W. H. Howe, Maplewood.
" 3	"	81250	A. Beattie & Co., Stratford.	1 "	55	.....	Vernan Dennis, Burgessville.

DISTRICT OF NORTHERN ONTARIO—

April 1	Maple Syrup.	79432	D. Legault, Charlton, Ont.	3 bots.	90	Canada Syrup Exchange, Montreal.	
" 6	"	79433	E. Pilon, Cobalt.....	3½ pts.	50	.....
" 10	"	79434	F. C. Preston & Co., Haileybury.	3 "	65	E. C. Drew, R.R. No. 1, Dunham, Que.	
" 11	"	79435	Perkins & Co., Cochrane, Ont.	3 "	35	Purity Syrup Co., Montreal.	
" 18	"	79440	Orsola Giachino, Cobalt...	3½ "	75	Maple Tree Producers Assn., Montreal.	
" 25	"	79444	The Starr Grocery, North Bay.	3½ "	48	H. H. Layng, Smith's Falls.	

DISTRICT OF MANITOBA—

April 23	Maple Syrup.	79767	La Maison Blanche, 13 Provencher Ave., St. Boniface.	3 bots.	65	Purity Syrup Co., Montreal.	Hudson's Bay Co., Winnipeg.
May 7	"	79772	Nation & Shewan, 806 Rosser Ave., Brandon.	3 "	75	Fair Bros., Hope-town, Ont.	.....
" 8	"	79773	Imperial Grocery Co., 601 Rosser Ave., Brandon.	3 "	65	.....	Unknown...
" 8	"	79774	E. Bolton, 103 Rosser Ave., Brandon.	3 "	60	East. T. Maple Sugar Exchange, Sutton.	.....

MAPLE SYRUP.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.							No. of Sample.	Remarks, and Opinion of the Chief Analyst.		
	Water.	Solids.	Results on dry basis.							Malic Acid Value.	
			Lead No.		Ash.						
			Canadian	Winton.	Total.	Water Soluble.					Insoluble

JOHN TALBOT, INSPECTOR.

Purchased & London	31.58	68.42	2.84	.....	0.78	.....	.....	81228	
Market, "	34.43	65.57	3.02	...	0.85	.....	.....	81229	
" "	36.38	63.62	3.10	.....	1.07	.....	.....	81230	
" "	32.68	67.32	2.76	.....	0.83	.....	.....	81231	
" "	42.14	57.86	3.58	.....	1.12	.....	.....	81232	Excess Water
" "	39.68	60.32	3.04	.....	0.91	.....	.....	81240	Excess Water
" "	37.79	62.21	4.02	.....	1.06	.....	.....	81242	
" "	33.86	66.14	3.80	...	1.09	.....	.....	81245	
" "	35.53	64.47	4.24	...	0.94	.....	.....	81247	
" "	32.00	68.00	3.10	.....	0.97	.....	.....	81249	
" "	35.98	64.02	3.46	.....	1.04	.....	.....	81250	

THOS. E. ARMSTRONG, INSPECTOR.

.....	37.58	62.42	1.99	1.17	0.58	0.32	0.26	0.46	79432	
.....	36.18	63.82	0.12	None.	0.03	...	.....	0.06	79433	Adultera
.....	34.51	65.49	4.08	.....	0.91	.....	.....	.....	79434	
.....	28.51	71.49	2.70	.....	0.85	.....	.....	.....	79435	
.....	32.81	67.79	3.54	..	0.74	.....	.....	.....	79440	
.....	37.56	62.44	3.22	.....	1.00	.....	.....	.....	79441	

J. B. CONGROVE, INSPECTOR.

Purity Brand,	34.57	65.43	1.38	1.14	0.52	0.37	0.15	0.53	79767	Adulterated.
Pine, .....	.....	.....	.....	.....	.....	.....	.....	.....	79772	Broken.
"	30.17	60.83	2.31	1.56	0.77	0.47	0.20	0.60	79773	Excess water.
"	32.84	67.16	1.05	0.63	0.40	0.25	0.15	0.44	79774	Adulterated.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF MANITOBA—

1918							
May 11	Maple Syrup.	79775	P. & B. Stores, 767 Portage Ave, Winnipeg.	3 bots.	1 50	Gardiner Co., Toronto.	
" 11	"	79776	J. Gadway, 755 Portage Ave, Winnipeg.	3 "	90	Maple Tree Producers Assn., Montreal.	
" 1	"	79778	Alex Reid, 639 Rosser Ave, Brandon.	3 "	1 20	Dingle & Stewart, Brandon.	
" 3	"	79780	David Wilson, 1008 Princess Ave, Winnipeg.	2 "	65	Kennedy Syrup Exchange, Montreal.	
" 13	"	79781	Joseph Heile, 66 Provencher Ave, St. Boniface.	3 "	90		A. Gautier, St. Boniface.
" 13	"	79782	La Maison Collin, 98 Provencher, St. Boniface.	3 "	90		C. C. Salisbury, Brome, Que.

DISTRICT OF SASKATCHEWAN—

April 3	Maple Syrup.	81837	H. E. Labrosse, Marcelin, Sask.	1 qt.	85	Maple Tree Producers Assn., Montreal.	
" 4	"	81838	Podolsky Bros., Hafford...	1 "	65	Canada Syrup Exchange, Montreal.	Cameron & Heap Ltd., Prince Albert, Sask.
" 17	"	81839	Star Grocery, North Battleford.	1 "	60	The Bowes Co., Toronto.	
" 18	"	81840	J. W. Moody, North Battleford.	1 "	65	Canada Maple Exchange, Montreal.	
" 23	"	81842	Underwood & Davis, Turtleford.	1 "	55	Gardiner Co., Toronto.	A. McDonald Co. N. Battleford
" 25	"	81843	Pickle & Johnston, North Battleford.	1 "	75	Maple Tree Producers Assn., Montreal.	
May 27	"	83021	Canadian Trading Co., Regina.	3 cans.	1 80	Unknown	A. McDonald Co., Ltd.
" 30	"	83031	Law & MacKay, Swift Current.	3 bots.	1 35	The Bowes Co., Ltd., Toronto.	Macdonald Crawford, Ltd., Swift Current.
June 7	"	83035	A. E. Ord, Moose Jaw.....	3 "	1 50	E. J. Berry, Brome, P.Q.	Manufacturer...

DISTRICT OF ALBERTA—

April 16	Maple Syrup.	52901	Fisher & Springborn, New Market, Calgary.	3 bots	1 20	The Bowes Co., Ltd., Toronto.	
" 18	"	52902	T. E. Morrow, 508, 12th Ave. W., Calgary.	1 bot.	70	" "	
" 18	"	52903	Alex. McDonald, 1424, 17th Ave. W., Calgary.	1 "	60	" "	
" 18	"	52904	E. W. Spencer, 1293, 1st St. W., Calgary.	1 "	80	Maple Tree Producers Assn., Montreal.	
" 18	"	52905	Woollard's Grocery, 1307, 1st St. W., Calgary.	3 bots	1 20	The Bowes Co., Ltd., Toronto.	
" 19	"	52906	The John Irwin Co., Ltd., Calgary.	1 bot.	80	Maple Tree Producers Assn., Montreal.	
" 24	"	52907	James Ramsay, Ltd., Edmonton.	1 tin.	1 00		

MAPLE SYRUP.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.										No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Water.	Solids.	Results on dry basis.						Malic Acid Value.			
			Lead No.		Ash.							
			Canadian	Winton.	Total.	Water Soluble.	Insoluble.					

Concluded.

Pure M. Invoiced as Pure Maple Syrup and sold as such.	34.62	65.38	0.33	0.27	0.17	0.13	0.04	0.19	79775	Adulterated.
Pride of Canada.	31.76	68.24	3.29	..	0.96	..	..	..	79776	
Pure.	32.30	67.10	2.51	1.64	0.71	0.47	0.24	0.56	79778	
"	38.50	61.50	2.44	1.48	0.57	..	2.	0.50	79780	
"	30.21	69.79	4.62	..	1.21	..	..	..	79781	
"	31.96	65.04	3.82	..	..	..	..	..	79782	

J. M. DANIS & L. H. HALL, INSPECTORS.

..	35.16	64.84	4.06	..	1.03	..	..	..	81837	
..	35.73	64.27	0.15	0.03	0.04	..	..	0.12	81838	Adulterated.
..	34.20	65.80	2.00	1.23	0.62	0.36	0.26	0.46	81839	
..	32.33	67.77	0.28	0.16	0.16	0.08	0.08	0.16	81840	Adulterated.
..	35.45	64.55	0.34	0.41	0.24	0.15	0.09	0.23	81842	"
..	31.20	68.80	2.30	1.69	0.76	0.52	0.24	0.40	81843	
..	36.61	63.39	0.32	0.54	0.25	0.20	0.05	0.31	83021	Adulterated.
..	36.61	63.39	2.60	..	0.74	..	..	..	83031	
..	35.20	64.80	3.36	..	0.96	..	..	..	83033	

A. W. R. MARKLEY, INSPECTOR.

Pure	32.44	67.56	2.01	1.45	0.73	0.57	0.16	0.66	52901	
"	27.98	72.02	2.52	..	0.83	..	..	..	52902	
"	31.96	68.04	2.46	1.53	0.61	0.38	0.32	0.51	52903	
Pride of Canada, Pure.	33.58	66.42	3.50	..	1.04	..	..	..	52904	
Pure	33.91	66.09	1.57	1.12	0.70	0.31	0.18	0.37	52905	Adulterated.
Pride of Canada, Pure.	30.57	69.43	3.30	..	1.19	..	..	..	52906	
Rock's Eastern Town- ships, Pure.	36.63	63.37	4.12	..	1.15	..	..	..	52907	

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF ALBERTA—

1918.							
April 24	Maple Syrup	52908	J. A. Hallier, Edmonton...	1 tin.	85	Maple Tree Produce Assn., Montreal.	.....
" 24	"	52909	J. H. Morris Co., Ltd., Edmonton.	1 bot.	60	The Bowes Co., Ltd., Toronto.	.....
" 24	"	52910	Johnstone Walker, Ltd., Edmonton.	1 "	75	Ed. J. Berry, Bromo. Que.	.....

DISTRICT OF ROCKY MOUNTAINS—

April 3	Maple Syrup	68579	Star Grocery, Nelson.....	3 tins.	1.95	Kelly Confection Co., Vancouver.	.....
" 3	"	68580	The Ideal Cash Grocery, Nelson.	3 "	2.25	Maple Tree Produce Assn., Montreal.	.....
" 8	"	68581	The Okanagan Grocery, Vernon.	3 bots.	2.10	Small's Ltd., Montreal.	.....

MAPLE SYRUP.

Inspector's Report (Is not an expression of opinion).	Results of Analysis.								No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Water.	Solids.	Results on dry basis.					Malic Acid Value		
			Lead No.		Ash.					
			Canadian	Winton.	Total.	Water Soluble.	Insoluble			

Concluded.

Pride of Canada, Pure.	34.48	65.57	3.94	.....	1.34	.....	.....	.....	52908	
Pure	33.80	66.20	2.07	1.34	0.64	0.36	0.28	0.47	52909	
"	32.98	67.02	3.36	...	1.11	..	.....	.....	52910	

THOS. PARKER, INSPECTOR.

.....	32.43	67.57	3.18	.....	0.97	.....	.....	.....	68579	
Pride of Canada	33.33	66.67	3.26	...	0.91	..	.....	.....	68580	
Small's	33.56	66.44	1.95	1.20	0.59	0.40	0.19	0.43	68581	